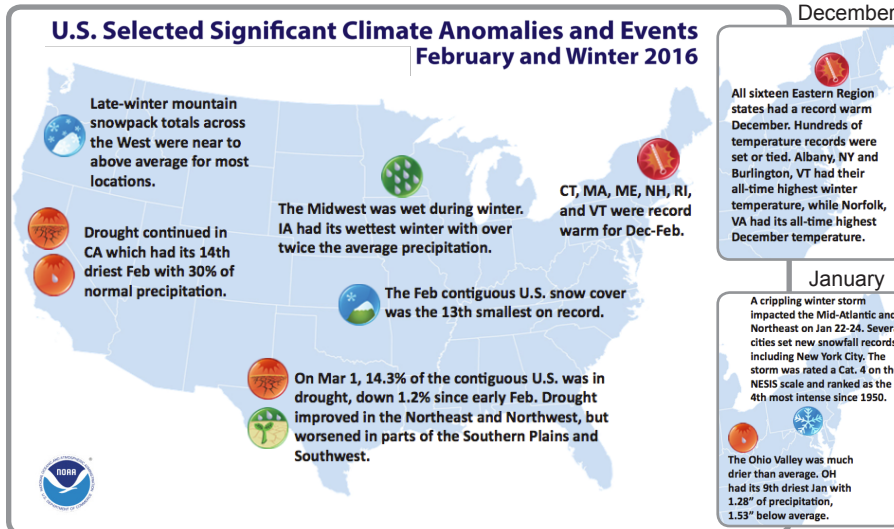


National - Significant Events for December 2015–February 2016



Highlights for the East

The region was record warm in December, and North Carolina was record wet. New England had its warmest winter on record.

Numerous storms impacted the region during winter, with three of the most powerful described below.

- **January 22–24:** Up to 42 inches of snow and [blizzard conditions](#) affected the Northeast and Mid-Atlantic. See impacts section for more details.
- **February 15–16:** The region saw up to 22 inches of snow, ½ inch of ice, 3 inches of rain, and wind gusts to 81 mph. Travel problems and power outages were the main impacts. Carteret County, NC had its earliest tornado in a calendar year.
- **February 24:** Seventeen tornadoes touched down in Pennsylvania, Virginia, and the Carolinas. The tornadoes damaged more than 150 buildings, injured dozens, and caused four fatalities. Wind damage and power outages were reported throughout the region. Baseball-sized hail, heavy rain, and flooding also occurred.

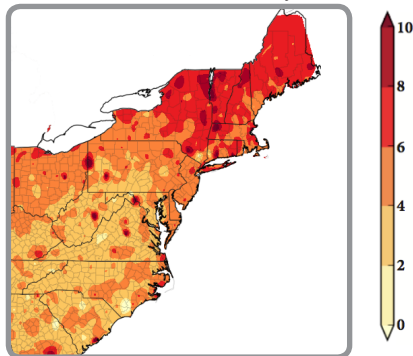
With an average temperature of 36.8°F, 4.6°F above the 20th century average, the contiguous United States had its warmest winter on record. The U.S. had its warmest December on record with an average temperature of 38.6°F, 6.0°F above average. The average temperature for January was 32.2°F, 2.1°F above average. February's average temperature of 39.5°F, 5.7°F above average was the seventh warmest on record. Winter contiguous U.S. precipitation was 8.05 inches, 1.26 inches above the 20th century average. The U.S. had its wettest December on record with 3.93 inches, 1.58 inches above average. January precipitation was 2.03 inches, 0.28 inches below average, while February precipitation was 1.93 inches, 0.20 inches below average.

North Carolina, Virginia, and Pennsylvania set their state records for most February tornadoes. The three-state region of Virginia and the Carolinas had their highest February and highest winter tornado counts on record. Pennsylvania had its strongest February tornado on record. Records date back to 1950.

Regional - Climate Overview for December 2015–February 2016

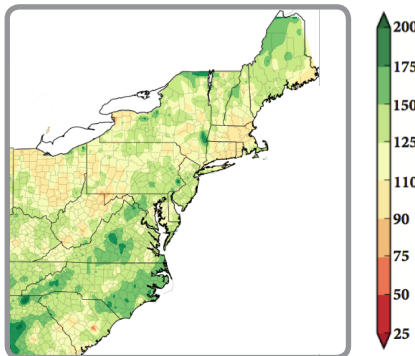
Temperature and Precipitation Anomalies

Departure from Normal Temperature (°F)
December 1, 2015–February 29, 2016



With all sixteen states record warm in December, the Eastern Region was also record warm at 11.9°F above normal. January was colder than normal in southern areas and warmer than normal in northern areas. Overall, the month was 0.5°F above normal. February was 1.9°F warmer than normal. The states saw near to above-normal temperatures, with three states having a top ten warm February. The six New England states were record warm during winter, while the other states ranked the season among their top ten warmest. The region had its third warmest winter on record at 4.8°F above normal. Winter sea surface temperatures in the western Atlantic Ocean were also above normal.

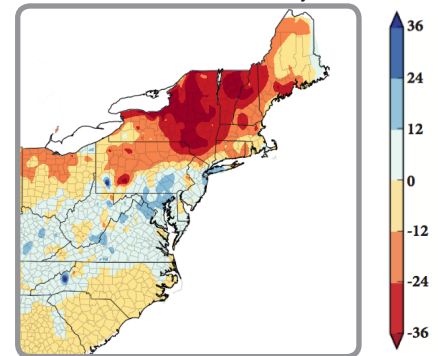
Percent of Normal Precipitation (%)
December 1, 2015–February 29, 2016



The Eastern Region had its seventh wettest December on record at 151% of normal. All states saw above-normal precipitation. North Carolina was record wet, and three other states had a top ten wet December. January precipitation was 74% of normal, with all states drier than normal. Frequent storms led to above-normal precipitation for all states in February. Four states ranked the month among their top ten wettest, with the region seeing 153% of normal. It was the ninth wettest winter for the region at 126% of normal. All states were wetter than normal, with two states ranking the season among their top ten wettest.

Seasonal Snowfall

Departure from Normal (in.)
December 1, 2015–February 29, 2016



Above-normal temperatures led to below-normal snowfall for the Eastern Region in December. A few sites had their least snowy December and/or their latest first snow. In January, much of New York and New England saw below-normal snowfall, while much of the Mid-Atlantic saw above-normal snowfall. February snowfall ranged from below-normal in eastern New York and northern New England to above-normal in areas near Lake Erie, with most of the region within six inches of normal. Winter snowfall was well below normal in much of New York and New England. In fact, a few sites had their least snowy winter on record. The Mid-Atlantic saw near to above-normal snowfall.

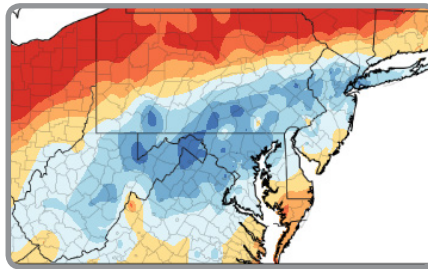
Regional - Impacts and Updates for December 2015–February 2016

Winter Recap

December was record warm and featured below-normal snowfall. While some golf courses saw an uptick in business, many ski resorts opened late or had [limited trails open](#). The Mount Washington Auto Road in New Hampshire opened for guided auto tours in late December for the [first time](#) in (at least) 35 years. Transportation departments continued construction projects longer into the season, as well as [saved money](#). Home heating costs were also down. Some crops were harvested later into the month, while other plants bloomed early. January temperatures were below normal in southern parts of the region, but above normal in northern areas. Many lakes in New England and New York were unfrozen or had unsafe ice conditions. The warm temperatures also caused maple sap to start flowing, leading to an [early start](#) for syrup production. While February averaged out to be near to warmer than normal, there were large temperature fluctuations during the month. February started warm, but Arctic air moved in mid-month. Three Northeast sites had their all-time coldest February temperatures on record. This was followed by a quick warm up. For instance, Albany, NY, saw a 60°F temperature swing from February 15–16. The month also brought frequent storms. With a strong El Niño in place, winter weather patterns played out as expected.



This winter, the region experienced record warmth, record cold, blizzards, and tornadoes. The picture above is of damage from one of two EF-3 tornadoes that touched down in Virginia on February 24, making them the state's strongest February tornadoes since 1950. (Credit: NWS AKQ).



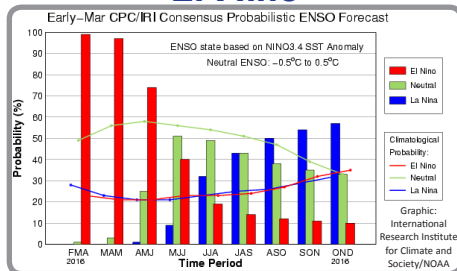
During the January 22–24 storm, snowfall totals (in.) exceeded a foot in many areas, with the greatest totals exceeding three feet.

January Blizzard

Heavy snow and wind gusts to 75 mph caused up to 9 hours of blizzard conditions in the Northeast and Mid-Atlantic. Eight of the Northeast's major climate sites had their greatest 1-day snowfall on January 23. Five sites received more snow on that one day than they normally get in an entire snow season. All flights at the Philadelphia and three Baltimore-Washington area airports were cancelled on the 23rd. Numerous roads were shut down or impassable. For instance, more than [500 vehicles were stranded](#) on the Pennsylvania Turnpike for nearly 24 hours. More than 100,000 customers lost power, with the greatest number in New Jersey. The weight of the snow also caused some roofs to collapse. As communities dug out, schools were closed for up to a week. Several southern New Jersey and Delaware coastal sites saw [record or near-record high](#) water levels, which resulted in moderate to major flooding. The high seas carved cliffs up to 15 ft. high in dunes. Forty of the 66 beaches surveyed by the New Jersey Department of Environmental Protection experienced [moderate to major erosion](#). Damage in Cape May County, NJ, was estimated at \$67 million. Storm-related incidents claimed the lives of eight people in New Jersey. The storm was rated a category 4 (crippling) and was the sixth highest ranking storm for the Northeast on the [Regional Snowfall Index scale](#).

Regional - Outlook for Spring 2016

El Niño



While sea surface temperatures in the equatorial Pacific Ocean [peaked in late 2015](#), atmospheric and oceanic observations during February indicated that a strong El Niño event continues. El Niño conditions and impacts will weaken during spring, with a transition to ENSO-neutral conditions by early summer. An El Niño is frequently followed by a [La Niña](#). Most computer models indicate a transition to La Niña is somewhat likely by winter 2016-17.

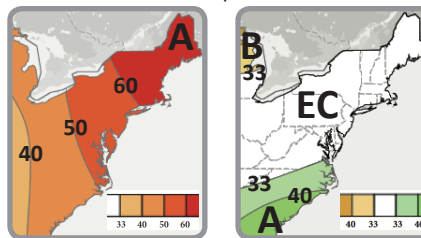
Spring Flood Potential

The river flood potential during spring is near to below normal for most of Ohio and the Northeast and near to above normal for Virginia and the Carolinas. In mid-March, river levels and soil moisture were near to above normal, but snowpack and snow water equivalent were below normal. The [increased potential in the Carolinas](#) is due to antecedent wet conditions, a storm track over the area, and increased chances of above-normal precipitation. [In northwest Maine](#), where snowpack and river ice lingered, the river flood and ice jam flood potential is near to above normal. Heavy rain can cause flooding at any time.

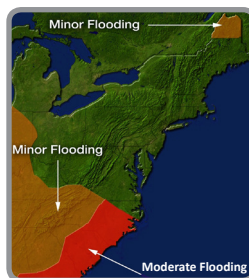
Precipitation and Temperature

Valid for April–June 2016

The Climate Prediction Center is forecasting an increased chance of above-normal temperatures for the region from April–June (bottom left). The precipitation outlook (bottom right) calls for an increased chance of above-normal precipitation for southeastern Virginia and the Carolinas, with equal chances elsewhere. [Significant wildland fire potential](#) is forecast to be below normal in the eastern Carolinas due in part to wet conditions.



A: Above-normal #: Probability of
B: Below-normal above- or below-
EC: Equal chances normal



Map produced March 17 by NOAA.

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